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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,317	01/17/2001	Yoshiyuki Tonami	36856.406	4649

7590 04/02/2003

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EXAMINER

KACKAR, RAM N

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 04/02/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/761,317

Applicant(s)

TONAMI ET AL.

Examiner

Ram N Kackar

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1- 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano et al (US 5550068) in view of the applicants admitted prior art (Fig 1a-1d and 2).

Hirano et al disclose a process for wiring formation and disclose a feeder film partially on a substrate (Fig 2a-2), a plating base partially overlapping the feeder film (Fig 2k-11), the plating base film formed by sputtering (Col 3 lines 49-53) in an opening made by masking using photoresist material (Col 3 lines 38-40) and forming a plated wiring on the base film (Fig 2m-12 and Col 3 lines 59-62). The plating base film is disclosed to provide improved adhesion (Col 3 lines 56-58).

Hirano et al teach that the feeder layer whose primary purpose is providing a conductive path for electroplating to occur is removed after that purpose is served (Col 2 lines 28-31).

Further Hirano et al teach that in another embodiment there could be a base layer between the electroplated gold layer and layer to conduct electricity (Feeder layer Col 2 lines 28-31 and Fig 1k-4). The feeder layer in this embodiment is disclosed to be removed.

This conventional method of removing the feeder film is disclosed in Applicants admitted prior art (Page 2 line 15) by wet etching.

Therefore it would have been obvious for one of ordinary skill in the art at the time invention was made to use this step to remove the feeder film by any method including wet etch as suggested by applicants prior art.

Regarding claims 5, 11, 14 and 18, Hirano et al do not expressly disclose the width of the base film to be greater than the width of the feeder film. However they disclose the control of resistance of the base film by controlling thickness. As the width of the base film controls the resistance in the same way, it would have been obvious to one of ordinary skill in the art at the time invention was made to increase the width of the base film to decrease its resistance.

***Response to Amendment***

3. Applicant's arguments filed 3/6/2003 have been fully considered but they are not persuasive.

Applicant has argued that Hirano et al do not teach removing feeder film and that the presence of insulation layer 10 negates the need for removing feeder film.

In fact Hirano et al disclose removing feeder film in example of Fig 1. Considering the reference as a whole, Hirano et al disclose removing feeder film even though there is an insulation film (Fig 1(o)- 10) to separate the feeder film layer 4 from circuit layer 2 (Col 2 lines 28-30).

Applicant has further argued that Hirano et al teach away from wet etching.

The reference to wet etching is not on the context of removing feeder film, which is not too deep. The proper context related to deep etch.

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***Conclusion***

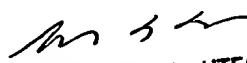
4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 703 305 3996. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703 308 1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

  
BENJAMIN L. UTECH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

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April 1, 2003